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L3: Entry 1 of 15

File: USPT

Aug 20, 2002

US-PAT-NO: 6437126

DOCUMENT-IDENTIFIER: US 6437126 B1

TITLE: Substituted phenyluracils

DATE-ISSUED: August 20, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Drewes; Mark Wilhelm	Langenfeld			DE
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Dollinger; Markus	Overland Park	KS		

US-CL-CURRENT: [544/309](#); [544/311](#), [544/312](#), [544/313](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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[KIMC](#)☐ 2. Document ID: US 6413907 B2

L3: Entry 2 of 15

File: USPT

Jul 2, 2002

US-PAT-NO: 6413907

DOCUMENT-IDENTIFIER: US 6413907 B2

TITLE: Herbicidal composition

DATE-ISSUED: July 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruegg; Willy	Gipf-Oberfrick			CH

US-CL-CURRENT: [504/105](#); [504/106](#), [504/107](#), [504/108](#), [504/133](#), [504/136](#), [504/137](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

[KIMC](#)☐ 3. Document ID: US 6403531 B1

L3: Entry 3 of 15

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Jun 11, 2002

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L6: Entry 7 of 10

File: USPT

Jun 11, 2002

DOCUMENT-IDENTIFIER: US 6403531 B1

TITLE: Herbicidal synergistic composition and method of weed controlAbstract Text (2):

in admixture with a second component comprising at least one compound selected from the group consisting of ametryn, atrazine, hexazinone, asulam, diuron, 2,4-D, halosulfuron and butafenacil-allyl.

Brief Summary Text (1):

The present invention relates to a novel herbicidal synergistic composition comprising a combination of herbicidal active ingredients, which composition is suitable for selective weed control in crops of useful plants, for example in crops of cereals, cotton, soybeans, sugar beet, sugar cane, plantations crops, rape, maize and rice. The invention further relates to a method of controlling weeds in crops of useful plants and to the use of the novel composition for that purpose.

Brief Summary Text (55):

Surprisingly, it has now been found that a combination of two active ingredients in variable proportions, i.e. a combination of the active ingredient of formula I with one of the above-mentioned active ingredients of formulae II to X, has a synergistic effect that is capable of controlling, both pre-emergence and post-emergence, the majority of weeds occurring especially in crops of useful plants without significantly damaging the useful plants. According to the present invention, therefore, a novel synergistic composition for selective weed control is proposed that comprises as active ingredient, in addition to conventional inert formulation adjuvants, the compound of formula I ##STR21##

Brief Summary Text (116):

The compositions according to the invention are especially suitable for controlling the following weeds in crops of sugar cane: *Erigeron canadensis*, *Convolvulus arvensis*, *Sorghum halepense*, *Imperata cylindrica*, *Cynodon dactylon*, *Commelina benghalensis*, *Cyperus rotundus*, *Euphorbia heterophylla*, *Amaranthus retroflexus*, *Ipomoea hederacea*, *Brachiaria plantaginea*, *Digitaria sanguinalis*, *Eleusine indica*, *Panicum miliaceum* and *Setaria faberi*. The compositions according to the invention are especially suitable for controlling the following weeds in crops of cotton: *Cyperus rotundus*, *Sorghum bicolor*, *Digitaria sanguinalis*, *Echinochloa crus galli*, *Eleusine indica*, *Panicum dichotomiflorum*, *Setaria faberi*, *Brachiaria plantaginea*, *Abutilon*, *Amaranthus retroflexus*, *Cassia obtusifolia*, *Chenopodium album*, *Ipomoea hederacea*, *Sesbania exaltata* and *Xanthium canadense*. Furthermore, compositions that comprise the compound of formula I and at least one herbicide selected from dithiopyr, prodiamine and simazine are especially suitable for use in lawns. The compound of formula I in combination with flazasulfuron (known from The Pesticide Manual, 9th ed., page 397) and isoxaflutole (known from BRIGHTON CROP PROTECTION CONFERENCE--Weeds--1995, Proceedings Volume 1, pages 35-42) also exhibits a synergistic herbicidal action, especially in sugar cane and lawns. Generally good action is also exhibited by a synergistic mixture consisting of the active ingredient of formula I and azafenidine (known from AGROW, No. 261, Aug. 2, 1996, page 23). Crops are also to be understood as including those which have been made tolerant towards herbicides or classes of herbicides by conventional breeding or genetic engineering techniques, for example maize, soybeans, cotton or sugar cane that is tolerant towards glyphosate, glufosinate, bromoxynil and ALS-inhibitors, such as sulfonylureas (chlorimuron, thifensulfuron), imidazolinone (imazethapyr) or

mixtures of those compounds.

Brief Summary Text (146):

A synergistic effect exists whenever the action of the active ingredient combination I and II, III, IV, V, VI, VII, VIII, IX or X is greater than the sum of the actions of the active ingredients applied individually. The herbicidal action to be expected, We , for a given combination of two herbicides can be calculated as follows (see COLBY, S. R. "Calculating synergistic and antagonistic response of herbicide combinations". Weeds 15, pages 20-22; 1967):

Brief Summary Text (151):

If the action actually observed is greater than the expected value We , then synergy exists. The synergistic effect of the combinations of the active ingredient of formula I with the active ingredients of formula II, III, IV, V, VI, VII, VIII, IX or X is demonstrated in the following Example.

Detailed Description Text (3):

Monocotyledonous and dicotyledonous weeds and cultivated plants are sown in standard soil in plastics pots. Immediately after sowing, the test compounds are applied as an aqueous suspension (500 l of water/ha). The rates of application depend on the optimum concentrations determined under field conditions and greenhouse conditions. Evaluation of the tests is made after 15 and 27 days (DAA=day after application) in % action. 100% denotes that the plants have died, 0% denotes no phytotoxic action. The combinations of the active ingredient of formula I with the active ingredients of formula II, III, IV, V, VI, VII, VIII, IX or X exhibit a synergistic action in this test. Examples of the pre-emergence synergistic action of the compositions according to the invention are given in the following Tables:

Detailed Description Text (4):

In addition to the synergistic herbicidal action of the composition according to the invention on the weeds, surprisingly an advantageous antagonistic action on the cultivated plant cotton was found, i.e. whereas the compound of formula I when applied at a rate of 3.75 g/ha damages cotton by 10%, when 500 or 250 g/ha of norflurazon are added to the compound of formula I the cotton is protected to a very large extent (0% damage) while the herbicidal action on the weeds is increased.

Detailed Description Text (7):

The test plants are raised in plastics pots under greenhouse conditions as far as the 2- to 3-leaf stage. A standard soil is used as the cultivation substrate. At the 2- to 3-leaf stage, the herbicides are applied individually and as mixtures to the test plants. The test compounds are applied in the form of an aqueous suspension in 500 l of water/ha. The rates of application depend on the optimum concentrations determined under field conditions and greenhouse conditions. Evaluation of the tests is made after 11 and 22 days (DAA=day after application) in % action. 100% denotes that the plants have died, 0% denotes no phytotoxic action. The combinations of the active ingredient of formula I with the active ingredients of formula II, III, IV, V, VI, VII, VIII, IX or X exhibit a synergistic action in this test. Examples of the post-emergence synergistic action of the compositions according to the invention are given in the following Tables.

CLAIMS:

1. A herbicidal synergistic composition which comprises, in addition to conventional inert formulation adjuvants, the compound of formula I ##STR58##

in admixture with a second component comprising at least one compound selected from the group consisting of ametryn, atrazine, hexazinone, asulam, diuron, 2,4-D, halosulfuron and a compound of formula IV ##STR59##

wherein

n is 0,

R.sub.7 is --C(CH.sub.3).sub.2 --CO.sub.2 CH.sub.2 CH.dbd.CH.sub.2, and

Q is the group ##STR60##
and salts thereof.